



# Tactical Combat Casualty

August 2010



# Tactical Evacuation Care



# OBJECTIVES

- **DESCRIBE** the differences between MEDEVAC and CASEVAC
- **DESCRIBE** the four evacuation categories
- **DESCRIBE** the differences between Tactical Field Care and Tactical Evacuation Care
- **LIST** the nine items in a MEDEVAC



# OBJECTIVES

- **DESCRIBE** the additional assets that may be available for airway management, electronic monitoring, and fluid resuscitation
- **LIST** the indications and administrative controls applicable to giving Packed Red Blood Cells (PRBCs) in the field



# OBJECTIVES

- **STATE** the rules of thumb for calling for Tactical Evacuation and the importance of careful calculation of the risk/benefit ratio prior to initiating the call



# Tactical Evacuation

- Casualties will need to be evacuated as soon as feasible after significant injuries.
- Evacuation asset may be a ground vehicle, aircraft, or boat.
- **Evacuation time is highly variable - evacuations in Afghanistan typically take much longer than those in Iraq.**
- Tactical situation and hostile threat to evacuation platforms may differ markedly from one casualty scenario to another.
- The Tactical Evacuation phase allows for additional medical personnel and equipment to be used.



# Evacuation Terminology

- **MEDEVAC**: dedicated special medical evacuation assets marked with a Red Cross – MEDEVAC platforms are non-combatant assets
- **CASEVAC**: non-medical casualty evacuation platforms – may carry a Quick-Reaction force and provide close air support as well
- **Tactical Evacuation (TACEVAC)** – this term encompasses both of the above types of evacuation



# Aircraft Evacuation Planning

- **Flying rules are very different for different aircraft and units**
- **Consider:**
  - **Distances and altitudes involved**
  - **Day versus night**
  - **Passenger capacity**
  - **Hostile threat**
  - **Medical equipment**
  - **Medical personnel**
  - **Icing conditions**





# Aircraft Evacuation Planning

- Ensure that your evacuation plan includes aircraft capable to fly the missions you need
- Primary options

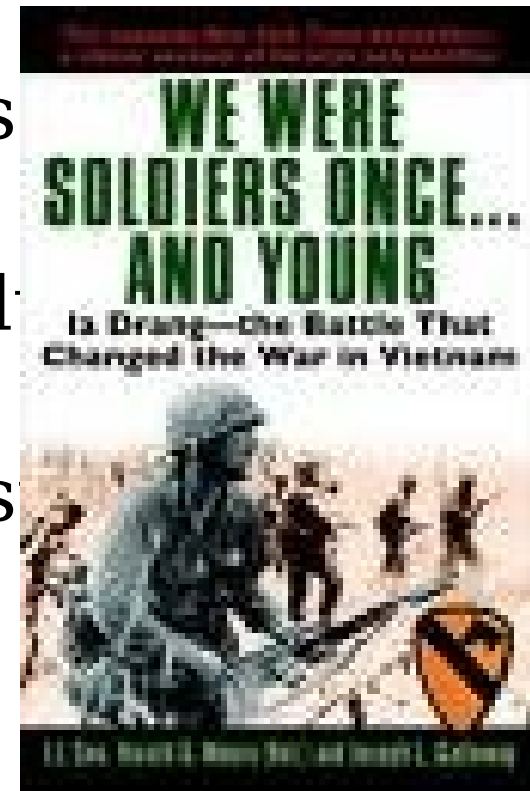




# CASEVAC VS MEDEVAC:

## The Battle of the Ia Drang Valley

- 1st Bn, 7th Cavalry in Vietnam
- Surrounded by 2000 NVA - heavy casualties
- Called for MEDEVAC
- Request refused because LZ was not secure
- Eventual pickup by 229th Assault Helo Squadron after long delay
- Soldiers died because of this mis
- Must get this part right



# Ground Vehicle Evacuation

- More prevalent in urban-centric operations in Iraq than austere environment ops in Afghanistan
- May also be organic to unit or designated MEDEVAC



# Tactical Evacuation Care



- TCCC guidelines for care are largely the same in TACEVAC as for Tactical Field Care.
- There are some changes that reflect the additional medical equipment and personnel that may be present in the TEC setting.
- This section focuses on those differences.





# Airway in TACEVAC

- Additional Options for Airway Management
  - Laryngeal Mask Airway
  - CombiTube
  - Endotracheal Intubation (ETT)
- Confirm ETT placement with CO2 monitoring
- These airways are advanced skills not taught in basic TCCC course





# Breathing in TACEVAC

- Watch for tension pneumothorax as casualties with a chest wound ascend to the lower pressure at altitude.
- Pulse ox readings will become lower as casualty ascends unless supplemental oxygen is added.
- Chest tube placement may be considered if a casualty with suspected tension pneumo fails to respond to needle decompression



# Supplemental Oxygen in Tactical Evacuation Care

Most casualties do not need supplemental oxygen, but have oxygen available and use for

- Casualties in shock
- Low oxygen sat on pulse ox
- Unconscious casualties
- Casualties with TBI
  - (maintain oxygen saturation > 90%)
- Chest wound casualties





# Fluid Resuscitation in TACEVAC

- Hextend resuscitation algorithm as before
- Further resuscitation with packed red blood cells (PRBCs), Hextend, or Lactated Ringer's solution (LR) as indicated.
- If a casualty with TB and has a weak or absent pulse, resuscitate as maintain a systolic blood pressure





# Packed Red Blood Cells in TACEVAC

- May be useful on prolonged evacuations when logistically feasible
- Coordination with blood bank is key
- Keep refrigerated until used
- Specific transfusion guidelines in PHTLS Manual
- Requires special training to use
- Consider 1:1 PRBC/plasma infusion ratio if used







# Hypothermia Prevention in TACEVAC

Remember to keep the casualty on an insulated surface or get him/her on one as soon as possible.

Apply the Ready-Heat Blanket from the Hypothermia Prevention and Management Kit (HPMK), to the casualty's torso (directly on the skin) and cover the casualty with the Heat-Reflective Shell (HRS).





# Hypothermia Prevention in TACEVAC

If a HRS is not available, the previously recommended combination of the Blizzard Survival Blanket and the Ready Heat blanket may also be used.



Use a portable fluid warmer capable of warming all IV fluids including blood products.



# Remember Prevention of Hypothermia in Helicopters!



in wind and altitude cold result in cold s  
ection especially important for casualties  
n shock and burn casualties



# TACEVAC CARE - Hoisting



- Rigid Litters Only When Hoisting!
- Check and double-check rigging

The image shows two helicopters on a tarmac at sunset. The helicopters are in silhouette against a bright, orange-yellow sky. Several ground crew members are also silhouetted, standing around the helicopters. The word "Questions?" is written in a large, white, serif font across the center of the image.

Questions?



# Standard Evacuation Categories

- **Urgent/Urgent Surgical**: 2 hour window to save life, limb, or eyesight
- **Priority**: Can be safely managed for 4 hours
- **Routine**: Can be safely managed for 24 hours
- **Convenience**: Can be safely managed at location and do not



# Tactical Evacuation: Eight Rules of Thumb





# **TACEVAC 8 Rules of Thumb: Assumptions**

- **These Rules of Thumb are designed to help the corpsman or medic determine the true urgency for evacuation.**
- **They assume that the decision is being made at 15-30 minutes after wounding.**
- **Also that care is being rendered per the TCCC guidelines.**
- **Most important when there are tactical constraints on evacuation:**
  - **Interferes with mission**
  - **High risk for team**
  - **High risk for TACEVAC platform**





# TACEVAC Rule of Thumb #1

**Soft tissue injuries are common and may look bad, but usually don't kill unless associated with shock**





# TACEVAC Rule of Thumb #2

**Bleeding from most extremity wounds should be controllable with a tourniquet or hemostatic dressing. Evacuation delays should not increase mortality if bleeding is controlled.**





# **TACEVAC Rule of Thumb #3**

**Casualties who are in shock should be evacuated as soon as possible**



**Gunshot wound to the abdomen**



# **TACEVAC Rule of Thumb #4**

**Casualties with penetrating wounds of the chest who have respiratory distress unrelieved by needle decompression should be evacuated as possible.**





# **TACEVAC Rule of Thumb #5**

**Casualties with blunt or penetrating trauma of the face associated with airway difficulty should have an immediate airway established and be evacuated as soon as possible.**

**REMEMBER to let the casualty sit up and lean forward if that helps him or her to breathe better!**





# **TACEVAC Rule of Thumb #6**

**Casualties with blunt or penetrating wounds of the head where there is obvious massive brain damage and unconsciousness are unlikely to survive with or without emergent evacuation.**



# TACEVAC Rule of Thumb #7

**Casualties with blunt or penetrating wounds to the head - where the skull has been penetrated but the casualty is conscious should be evacuated emergently**







# TACEVAC Rule of Thumb #8

**Casualties with penetrating wounds of the chest or abdomen who are not in shock at their 15-minute evaluation have a moderate risk of developing late shock from slowly bleeding internal injuries. They should be carefully monitored and evacuated as soon as fea**





# Questions?





# 9-Line Evacuation Request



quired if you want an evacuation from another t



# 9-Line Evacuation Request

- Request for resources through tactical aircraft channels.
- NOT a direct medical communication with medical providers
- Significance
  - Determines tactical resource allocation
  - DOES NOT convey much useful medical information



# 9-line Evacuation Request

Line 1: Pickup location

Line 2: Radio frequency, call sign and suffix

Line 3: Number of casualties by precedence (evacuation category)

Line 4: Special equipment required





# 9-line Evacuation Request

Line 5: Number of casualties by type  
(litter,  
ambulatory)

Line 6: Security at pickup site

Line 7: Method of marking pickup site



# 9-line Evacuation Request

Line 8: Casualty's nationality and status

Line 9: Terrain Description; NBC contamination if applicable





# TACEVAC Care for Wounded Hostile Combatants

- Principles of care are the same for all wounded combatants
- Rules of Engagement may dictate evacuation process
- Restrain and provide security
- Remember that each hostile casualty represents a potential threat to the provider and the unit and take appropriate measures
- They still want to kill you.





# Tactical Evacuation Care

## Summary of Key Points

- Evacuation time is highly variable
- Thorough planning is key
- Similar to Tactical Field Care guidelines but some modifications







# Tactical Evacuation Care Summary of Key Points

- Tactical Evacuation Rules of Thumb
- Evacuation Categories
- 9-Line Evacuation Request





# Convoy IED Scenario

## Recap from TFC

Your last medical decisions during TFC enroute to HLZ:

- Placed tourniquet on both bleeding stumps
- Disarmed
- Placed NPA
- Established IV
- Administered 500 ml Hextend®
- IV antibiotics
- Provided hypothermia prevention

• Your convoy has now arrived at the



# Convoy IED Scenario

## What is your 9-line?

Line 1: Grid NS 12345678

Line 2: 38.90, Convoy 6

Line 3: 1 Urgent

Line 4: PRBCs, oxygen, advanced airway

Line 5: 1 litter

Line 6: Secure

Line 7: VS-17 (Orange Panel)

Line 8: U.S. Military

Line 9: Flat field

**\* Some individuals recommend adding a tenth line: the casualty's vital signs**



# Convoy IED Scenario

## Next steps?

- Continue to reassess casualty and prep for helo transfer
  - Search casualty for any remaining weapons before boarding helo
  - Secure casualty's personal effects
  - Document casualty status and treatment
- Helicopter arrives. Casualty is transferred to helo
- Medic stays with convoy



# Convoy IED Scenario

## What's Next?

- Casualty is now conscious but is confused
- Reassess casualty for ABCs
  - NPA still in place
  - First Hextend bolus completed 30 minutes ago
  - Tourniquets in place, no significant bleeding
- Attach electronic monitoring to casualty
  - Heart rate 140; systolic BP 70
  - O2 sat = 90%



# Convoy IED Scenario

## What's next?

- Supplemental Oxygen
  - Why?
    - Casualty is still in shock

## What's next?

- 2<sup>nd</sup> bolus of Hextend® 500ml
  - Why?
    - Casualty is still in shock



# Convoy IED Scenario

## What's next?

- Inspect and dress known wounds and search for additional wounds

## What's next?

- Try to Remove tourniquets and use hemostatics?
  - No
  - Why? THREE reasons:
    - Short transport time - less than 2 hours from application of tourniquets
    - No distal extremities to lose





**Questions/Comments**